II. CLAIM AMENDMENTS

1. (Original) A method in a direct conversion receiver for processing received radio signals that are modulated and centered at a carrier frequency, the modulation extending a sideband above and below the carrier frequency, the method comprising the steps of:

mixing a local oscillator frequency signal with said received radio signals for generating baseband frequency signals;

filtering out generated disturbing direct current (DC) components of said baseband signals centered at the zero frequency;

setting said local oscillator frequency signal equal to the carrier frequency plus an offset frequency, said offset frequency being equal to or about the difference between the carrier frequency and a null frequency, said null frequency centered at a notch of said sideband; and

centering said notch at the zero frequency of said baseband signals through mixing.

2. (Original) A direct conversion receiver for processing modulated radio signals that are centered at a carrier frequency, the modulation extending a sideband above and below said carrier frequency, the receiver comprising:

a means for receiving and splitting said signals, said means having a first signal output and a second signal output;

a local oscillator means tuned to a local oscillator frequency and having a first frequency output and a second frequency output, said second frequency output having a phase shift compared with said first output;

a first mixer means coupled to said first signal output and first frequency output for generating baseband frequency in-phase signals;

a second mixer means coupled to said second signal output and second frequency output for generating baseband frequency quadrature phase signals; a first filtering means for the suppression of said in-phase signals centered at the zero frequency; a second filtering means for the suppression of said quadrature signals centered at the zero frequency;

wherein the local oscillator frequency is set equal to the carrier frequency plus an offset frequency, said offset frequency being equal to the difference between the carrier frequency and a null frequency, said null frequency centered at a notch of said sideband, for centering said notch at the zero frequency of said baseband signals through mixing.

3. (Original) A direct conversion receiver according to claim 2, wherein for channel selection said receiver further comprises a third filtering means for the suppression of said in-phase signals being greater that a set corner frequency; and a fourth

filtering means for the suppression of said quadrature signals being greater that a set corner frequency.

4. (Original) A direct conversion receiver according to claim 2, wherein said first filtering means comprises a first AC coupling means for producing a notch at the zero frequency of said in-phase signal; and said second filtering means comprises a second AC coupling means for producing a notch at the zero frequency of said quadrature signal.

5. (Original) A direct conversion receiver according to claim 2, wherein said first and second filtering means each comprise a high pass filter coupled to the output of a mixer.

6. (Original) A direct conversion receiver according to claim 2, wherein said receiver further comprises a processor system for demodulation and processing said in-phase and quadrature signals and for controlling said local oscillator frequency.

7. (Original) A GPS direct conversion receiver for processing phase modulated radio signals that are centered at a carrier frequency for receiving digital information, the phase modulation extending a sideband above and below the carrier frequency, the receiver comprising:

a means for receiving and splitting said signals, said means having a first signal output and a second signal output;

a local oscillator means tuned to a local oscillator frequency and having a first frequency output and a second frequency output, said second frequency output having a 90° phase shift compared with said first output;

a first mixer means coupled to said first signal output and first frequency output for generating baseband frequency in-phase signals;

a second mixer means coupled to said second signal output and second frequency output for generating baseband frequency quadrature phase signals;

a first filtering means for the suppression of said in-phase signals centered at the zero frequency;

a second filtering means for the suppression of said quadrature signals centered at the zero frequency;

wherein the local oscillator frequency is set equal to the carrier frequency plus an offset frequency, said offset frequency being equal to or about the chip rate or a multiple of it for centering said local frequency at a

notch of said sideband, and for centering said notch at the zero frequency of said baseband signals through mixing.

8. (Original) A GPS direct conversion receiver according to claim 7, wherein said first filtering means comprises a first high pass filtering means for producing a notch at the zero frequency of said in-phase signal; and said second filtering means comprises second high pass filtering means for producing a notch at the zero frequency of said quadrature signal.

9. (Original) A method in a direct conversion receiver for processing modulated radio signals that are centered at a carrier frequency, the modulation extending a sideband above and below the carrier frequency, the method comprising the steps of:

receiving and splitting said signals into first signal output and second signal output;

tuning a local oscillator frequency for generating a first frequency output and a second frequency output, said second frequency output having a phase shift compared with said first output;

mixing said first signal output and first frequency output for generating baseband frequency in-phase signals;

mixing said second signal output and second frequency output for generating baseband frequency quadrature phase signals;

filtering out in-phase signals centered at the zero frequency; and

filtering out quadrature signals centered at the zero frequency;

setting said local oscillator frequency equal to the carrier frequency plus an offset frequency, said offset frequency being equal to the difference between the carrier frequency and a null frequency, said null frequency centered at a notch of said sideband; and

centering said notch at the zero frequency of said baseband signals through mixing.

10. (Original) A method according to claim 9, wherein the method further comprises the steps of high pass filtering said in-phase signal for producing a notch at the zero frequency of said in-phase signal; and high pass filtering said quadrature signal for producing a notch at the zero frequency of said quadrature signal.

11. (New) A method in a direct conversion receiver for processing received radio signals that are modulated and centered at a carrier frequency, wherein the frequency spectrum of a received signal is characterized by a main lobe and side lobes with successive ones of the lobes being separated by

spectral null points, the spectral null points being located at multiples of a chip rate of the received signal, the modulation extending a sideband above and below the carrier frequency, the method comprising the steps of:

mixing a local oscillator frequency signal with said received radio signals for generating baseband frequency signals;

filtering out generated disturbing direct current (DC) components of said baseband signals centered at the zero frequency;

setting said local oscillator frequency signal equal to the carrier frequency plus an offset frequency, said offset frequency being equal to or about the difference between the carrier frequency and a null frequency of said received signal spectrum, said null frequency centered at a notch of said sideband; and

centering said notch at the zero frequency of said baseband signals through mixing.

12. (New) A direct conversion receiver for processing received modulated radio signals that are centered at a carrier frequency, the modulation extending a sideband above and below said carrier frequency, wherein the frequency spectrum of a received signal is characterized by a main lobe and side lobes with successive ones of the lobes being separated by spectral null points, the spectral null points being located at multiples of a chip rate of the received signal, the receiver comprising:

a means for receiving and splitting said signals, said means having a first signal output and a second signal output;

a local oscillator means tuned to a local oscillator frequency and having a first frequency output and a second frequency output, said second frequency output having a phase shift compared with said first frequency output;

a first mixer means coupled to said first signal output and first frequency output for generating baseband frequency in-phase signals;

a second mixer means coupled to said second signal output and second frequency output for generating baseband frequency quadrature phase signals;

a first filtering means for the suppression of said in-phase signals centered at the zero frequency;

a second filtering means for the suppression of said quadrature signals centered at the zero frequency;

wherein the local oscillator frequency is set equal to the carrier frequency plus an offset frequency, said offset frequency being equal to the difference between the carrier frequency and a null frequency of said received signal spectrum, said null frequency centered at a notch of said sideband, for centering said notch at the zero frequency of said baseband signals through mixing.

13. (New) A receiver for processing modulated radio signals that are centered at a carrier frequency, the modulation extending a sideband above and below said carrier frequency, the receiver comprising:

an antenna, an amplifier and a divider for receiving and splitting said signals, said divider having a first signal output and a second signal output;

a local oscillator tuned to a local oscillator frequency and having a first frequency output and a second frequency output, said second frequency output having a phase shift compared with said first output;

a first mixer coupled to said first signal output and first frequency output for generating baseband frequency in-phase signals;

a second mixer coupled to said second signal output and second frequency output for generating baseband frequency quadrature phase signals; a first filter for the suppression of said in-phase signals centered at the zero frequency; a second filter for the suppression of said quadrature signals centered at the zero frequency;

wherein the local oscillator frequency is set equal to the carrier frequency plus an offset frequency, said offset frequency being equal to the difference between the carrier frequency and a null frequency, said null frequency centered at a notch of said sideband, for centering said notch at the zero frequency of said baseband signals through mixing.

14. (New) A receiver according to claim 13, wherein for channel selection said receiver further comprises a third filter for the suppression of said in-phase signals being greater than a set corner frequency; and a fourth filter for the suppression of said quadrature signals being greater than a set corner frequency.

15. (New) A receiver according to claim 13, wherein said first filter comprises a first AC coupling for producing a notch at the zero frequency of said in-phase signal; and said second filter comprises a second AC coupling for producing a notch at the zero frequency of said quadrature signal.

16. (New) A receiver according to claim 13, wherein said fist and second filters each comprise a high pass filter coupled to the output of a mixer.

17. (New) A receiver according to claim 13, wherein said receiver further comprises a processor system for demodulation and processing said in-phase and quadrature signals and for controlling said local oscillator frequency.

18. (New) A receiver for processing received modulated radio signals that are centered at a carrier frequency, the modulation extending a sideband above and below said carrier frequency, wherein the frequency spectrum of a received signal is characterized by a main lobe and side lobes with successive ones of the lobes being separated by spectral null points, the

spectral null points being located at multiples of a chip rate of the received signal, the receiver comprising:

an antenna, an amplifier and a divisor for receiving and splitting said signals, said divider having a first signal output and a second signal output;

a local oscillator tuned to a local oscillator frequency and having a first frequency output and a second frequency output, said second frequency output having a phase shift compared with said first frequency output;

a first mixer coupled to said first signal output and first frequency output for generating baseband frequency in-phase signals;

a second mixer coupled to said second signal output and second frequency output for generating baseband frequency quadrature phase signals;

a first filter for the suppression of said in-phase signals centered at the zero frequency;

a second filter for the suppression of said quadrature signals centered at the zero frequency;

wherein the local oscillator frequency is set equal to the carrier frequency plus an offset frequency, said offset frequency being equal to the difference between the carrier frequency and a null frequency of said received signal spectrum, said null frequency centered at a notch of said

sideband, for centering said notch at the zero frequency of said baseband signals through mixing.